Homework 7

Web Problem #1.5

1. *Inside a nuclear reactor, there is a **thermal** flux of 2.3E13 neutrons/cm^2-s. The core is made up of pure uranium 235 (10%) and water (90%). Answer the following questions:*
    a. *What is the volumetric rate of scattering (scatters/cm^3) of neutrons off the hydrogens in the water?*
    b. *What is the volumetric rate of fissions (fissions/cm3) of uranium in the core?*
    c. *What is the volumetric rate of total absorptions in the core?*
    d. *How would your answer to c change if you considered that there was also a fast flux of 2.3E11 neutrons/cm^2-s. For the purposes of this problem, assume that the fast neutrons have a single energy of 2 MeV.*